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REQUEST FOR REHEARING

Applicant : Leskela et al.
App. No : 09/787,062
Filed : June 28, 2001
For : METHOD FOR GROWING OXIDE
THIN FILMS CONTAINING BARIUM
AND STRONTIUM
Examiner : Matthew A. Anderson
Art Unit : 1765
Appeal Number : 2005-1654

CERTIFICATE OF MAILING

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January 5, 2006

(Date)

Andrew N. Merickel
Andrew N. Merickel, Reg. No. 53,317

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U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

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Dear Sir:

Please find enclosed for filing in the above referenced patent application:

(X) A Request for Rehearing in 4 pages.

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Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: *January 5, 2006*

By: *Andrew N. Merickel*

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

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BOARD OF PATENT APPEALS
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ON APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES
REQUEST FOR REHEARING

Dear Sir:

This Request for Rehearing relates to an appeal to the Board of Patent Appeals and Interferences of the Final Rejection set forth in an Office Action mailed on January 30, 2004 in the above-captioned application. A Decision on Appeal was issued on November 7, 2005 in which the rejections were upheld. As the Board did not consider Appellants' arguments regarding the differences between CVD and ALE in light of the requirement that the Examiner show a reasonable expectation of success, and improperly placed the burden of showing lack of expectation of success on Appellants, Appellants respectfully request reconsideration of the Decision.

In order to make a prima facie case of obviousness it is necessary for the Examiner to show a suggestion or motivation to combine the teachings, a reasonable expectation of success in the combination and that the prior art references teach or suggest all of the claim limitations. See M.P.E.P. §2143. The suggestion and the expectation of success are separate requirements and it is well established that both the suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See also *In re Dow Chemical Co.*, 5 U.S.P.Q. 2d 1529, 1530 (Fed. Cir. 1988). While Appellants accept that in some situations a strong suggestion to combine may be indicative of a reasonable expectation of success, perhaps shifting the burden of persuasion to Appellants, this is not such a case. The only asserted suggestion to combine the precursors of Kirlin with an ALE process is a passing reference in the background teachings of DiMeo to "related epitaxial deposition methods." DiMeo's detailed description concerns CVD only, not the other "related epitaxial processes." Appellants respectfully submit that this general connection between CVD and ALE is not sufficient to provide both a motivation to combine the references and a reasonable expectation of success for using Kirlin's CVD precursors in an ALE process, particularly in view of the evidence of well-known differences in the requirements of CVD and ALE.

In the Decision, the Board found that "the critical issue before us is whether there is a reasonable expectation of success that the types of precursors disclosed in Kirlin would chemisorb in an atomic layer epitaxy process." However, the Board did not identify any teachings in the cited references that would positively indicate that one of skill in the art would have a reasonable expectation of success in using the CVD precursors disclosed in Kirlin in ALE. Rather, the Board concludes that because "Appellants do not state that the types of precursors as described in Kirlin cannot work in an ALE process...it would have been obvious to one of ordinary skill in the art to use the types of precursors disclosed in Kirlin in an atomic layer epitaxy process for growing oxide thin films" (emphasis added). Appellants respectfully submit that the initial burden is properly on the Examiner to establish a reasonable expectation of success in a combination, not on Appellants to present evidence of why a combination would not be expected to succeed. Again, the passing reference to ALE in DiMeo (merely describing it as related to CVD) does not satisfy this burden, particularly in view of Appellants' evidence of the knowledge in the art of the well-known differences between CVD and ALE.

The Board asserts that Appellants have not addressed the issue of reasonable expectation of success (Decision, page 3, fourth paragraph). However, Appellants have argued, and continue to maintain that it is the Examiner's burden to show that the compounds disclosed in Kirlin would be expected to work in atomic layer epitaxy. See, for example Section B of Appellants' Reply Brief and Section D of Appellants' Appeal Brief. In addition, as the Board has recognized,

Appellants have provided evidence of the differences between CVD and ALE. This evidence is not provided to show that the precursors would not work and is not meant to show lack of expectation of success, for that is not Appellants' burden. Rather, this evidence exemplifies the skilled artisan's mindset, places the issue in context and points out the Examiner's failure to show a reasonable expectation of success.

The evidence provided by Appellants shows that ALE and CVD have different requirements for precursors and that one cannot automatically assume workability of CVD precursors for an ALE process. This provides sufficient doubt to require a positive showing of an expectation of success from the Examiner. That is, since it shows that the skilled artisan knew that precursors used in CVD do not necessarily have the characteristics required to work in ALE processes, this evidence reinforces the need for the Examiner to show a reasonable expectation in the art that the particular asserted combination would work. There is no teaching or suggestion in DiMeo or in Kirlin that the particular precursors at issue have properties that would make them useful in ALE.

One could understand that the Examiner's burden on expectation of success is somewhat lessened if the Examiner had produced a specific suggestion to employ Kirlin's CVD precursors in an ALE process. That is not the case here. Rather, the asserted suggestion to combine is the most general and tenuous of links between ALE generally and CVD generally as "related" processes.

The suggestion for combination relied on by the Board in DiMeo that multi-component oxide thin film layers can be formed using CVD and related deposition methods does not provide any reason for the skilled artisan to believe that the particular compounds disclosed in Kirlin can be used successfully in ALE methods. In particular, the suggestion does not address the differences between CVD and ALE, the different requirements for the precursors in each type of process and does not teach or suggest any particular properties of the precursors that would lead one of skill in the art to expect them to work in ALE. In the absence of any such teachings and in view of the well known differences between CVD and ALE, the skilled artisan would have no reasonable expectation of success. It is the Examiner's burden, and not Appellants', to show otherwise.

As mentioned above, the Board dismissed Appellants' evidence of the well-known differences between CVD and ALD, finding that "appellants do not state that the types of

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precursors disclosed in Kirlin cannot work in an ALD process." However, without pointing to some evidence in the prior art of a reason one of skill in the art would have an expectation of success in using the compounds disclosed in Kirlin in "related deposition methods" the Examiner has not met his burden in establishing a prima facie case of obviousness.

Appellants submit that the Board has improperly placed the burden on Appellants to provide evidence that the compounds disclosed in Kirlin would not work in ALE when the Examiner has provided no teaching or suggestion in the prior art that would indicate that the skilled artisan would have a reasonable expectation of success, and where Appellants have provided evidence that in view of the differences in the processes the skilled artisan would understand that compounds useful in CVD would not necessarily be useful in ALE. Thus, Appellants request reconsideration of the Boards' Decision and submit that the rejections under 35 U.S.C. § 103 should be withdrawn and that Claims 1-39 should be allowed.

Respectfully submitted,

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Dated: January 5, 2008

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